

Text	Section	Page	Paragraph	Sentence	Comment
Overall, with respect to Vapor Intrusion (VI).					While previous vapor intrusion investigation and mitigation efforts have been completed, those results only apply to the existing structures. The potential future risk pathway needs to be evaluated in the Operable Unit 2 (OU2) remedial investigation/feasibility study (RI/FS). The work plan should summarize the work completed to date, the receptors and pathways that were addressed, and how future work will evaluate the remaining pathways.
Overall, with respect to Vapor Intrusion (VI).					If VI sampling will be completed to support the OU2 RI/FS, then additional detail is needed regarding VI sampling methods.
Text	2.2, Subsection "Overview of OU2 Jim City and Ron Barnett Parcels History and Fill Material Information"	12	Last Paragraph	Last complete sentence.	As an example of why the previous VI work needs to be clarified in this work plan, this section discusses five soil gas probes (GP06-09 through GP10-09), four of which (GP07-09 through GP10-09) are also discussed in detail in the previous paragraph. Without referencing specific sample dates, this section is confusing. An additional example, according to the Tables 2.4 and 2.5, volatile organic compounds (VOCs) were sampled only once and yet field parameters were measured several times.
Text	2.2, Subsection "Overview of OU2 Jim City and Ron Barnett Parcels History and Fill Material Information"	13	1	3	Please provide a reference for the VI screening levels (VISLs) specified for trichloroethene (TCE) in groundwater. Furthermore, these screening criteria are not provided elsewhere in the document as are other medium- and exposure-specific criteria (i.e., soil vapor screening levels (SVSLs), maximum contaminant levels (MCLs), tap water). Please integrate VISLs for groundwater throughout the report and appendices.
Text	2.2, Subsection "Overview of OU2 Jim City and Ron Barnett Parcels History and Fill Material Information" Also, Section 5.3	13 & 29	2 & 4	2 & 2	Delete the word "incomplete" from this sentence; "potentially complete" would be more appropriate. It does not appear to be an incomplete exposure pathway if mitigation was warranted, even if the intent of this text is to state that the source is in question.
Text	2.2, Subsection "Overview of OU2 Jim City and Ron Barnett Parcels History and Fill Material Information"	13	2	4	Please provide supporting information or reference to support this statement.
Text	2.2, Subsection "Overview of OU2 Jim City and Ron Barnett Parcels History and Fill Material Information"	13	2	5	The conclusion would appear to be that while the surrounding buildings may not have a current vapor intrusion risk, the source area has not been adequately characterized. There is also the possibility of preferential pathways that have not been identified. This potential source area should be evaluated as part of the risk assessment evaluating potential future exposure pathways.
Text	2.2, Subsection "Overview of OU2 Jim City and Ron Barnett Parcels History and Fill Material Information"	13	2	4 & second to last	The application of screening levels is not consistent. In the previous paragraph, samples results are discussed in comparison to screening criteria based on U.S. Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs). In this paragraph, Ohio Department of Health (ODH) screening criteria are detailed. The distinction of which comparison process is used and why is unclear. Recommend applying the minimum of all appropriate, available criteria.
Text	2.2, Subsection "Overview of OU2 Jim City and Ron Barnett Parcels History and Fill Material Information"	13	2	2nd to last	The OU2 work plan should include references to any current or proposed VI sampling work plans and how those documents impact the VI risk assessment for OU2.

Text	Text	2.2, Subsection "Overview of OU2 Jim City and Ron Barnett Parcels History and Fill Material Information"	13 - 14	Last Paragraph, pg. 13 - First Paragraph, pg. 14	1	1) This overall statement is self-contradicting. The first sentence states that VI was thoroughly investigated through building investigations and shallow groundwater sampling, but the remainder of the paragraph states that the source of TCE is likely localized soil, which has not been thoroughly evaluated. Include a method to further evaluate potential VI pathways in the event that proposed soil samples indicate a possible source. Also, discuss if an environmental covenant is proposed as part of the remedy; for example, a covenant requiring appropriate VI investigation and mitigation on any new, or newly occupied, structures in order to address potential future pathways. This seems particularly important if source(s) are localized and not easily identified, as seems to be the case for Building 24. 2) Please provide information or references to support this text; specifically, where are the groundwater samples and what are the associated results?
Appendix B	Appendix B	Overall				Groundwater results are not compared to VISLs.

Text	Section	Page	Paragraph	Sentence	Comment
General Comment					The possibility of using a risk assessment to leave exposed waste in place is still listed as the main strategic approach for OU2 soils and wastes. If USEPA decides that this would not be permissible regardless of calculated risk, either because of an applicable or relevant and appropriate requirement (ARAR) or the uncertainty of adequately characterizing the heterogeneous mixtures of wastes typically in landfills, then several parts of this RI/FS WP, including the date quality objects (DQOs), need to be revised.
General Comment	5.2	28			A distinction must be made between soil samples and fill/waste samples. Section 5.2 does not consistently distinguish between soil and fill/waste samples. The first bullet on page 28 mentions the collection and analyses of soil/fill samples, and the second bullet on that page then discusses collecting soil samples if fly ash, foundry sands, etc. are encountered.
					The first full paragraph on page 28 states that data collected from “soil sampling locations” will be compared to background conditions to determine if there are any measurable inputs of contaminants from the site, or if contaminant concentrations are due to naturally occurring or anthropogenic background conditions. It is not appropriate to compare the results of fill/waste analyses to background soil concentrations for the following reasons, which are presented in the <i>Guidance for Comparing Background and Chemical Concentrations in Soils at CERCLA Sites</i> (USEPA, 2002):
					“A background reference area is the area where background samples will be collected for comparison with the samples collected on the site. A background reference area should have the same physical, chemical, geological, and biological characteristics as the site being investigated, but has not been affected by activities on the site. RAGS states that ‘...the locations of the background samples must be areas that could not have received contamination from the site, but that do have the same basic characteristics as the medium of concern at the site.’” The fill/waste at the site would be dissimilar to offsite background soil locations that could not have received contamination from the site.
					Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site activity (such as waste disposal practices) may cause naturally occurring substances to be released into other environmental media or chemically transformed. The concentrations of the released naturally occurring substance may not be considered as representative of natural background according to CERCLA 104(a)(3)(A). Waste disposal at the site would have resulted in otherwise naturally occurring constituents of concern (COCs) to be released to the environment.
					Once the distinction between soil and fill/waste has been made regarding background comparisons, it is important to consider the thickness of the fill/waste. The work plan states that where present, the observed depth of the fill beneath the Jim City and Ron Barnett parcels ranges from 5 to approximately 36 feet. According to Figure 1.0 in the initial draft of the Streamlined RI/FS for OU1 (CRA, 2011), the depth of fill/waste in the Jim City and Ron Barnett parcels is 15 feet or greater, with a small eastern area having between 10 and 15 feet of fill/waste. All of the proposed soil borings in Jim City and Ron Barnett parcels are located in area where the depth to fill is at least 15 feet, which is the maximum proposed depth of the borings. This means that relatively few native soil samples will be collected, which indicates that background comparisons will play a minor role in evaluating soils/fill/waste at OU2. Regardless, the exclusion of fill/waste samples from background comparison must be clarified in the work plan.

General Comment	General Comment					<p>The work plan does not specify what constituents will be included for background comparisons for native soil. Obviously naturally occurring constituents such as metals would be included and anthropogenic constituents that are commonly thought to be widespread enough to represent background such as polynuclear aromatic hydrocarbons (PAHs). However, constituents such as VOCs, especially chlorinated VOCs, are not considered to be anthropogenic background constituents. Offsite areas may contain chlorinated VOCs; however, this does not represent a background condition, rather an instance of offsite contamination that may or may not be related to site activities. It is not appropriate to compare site VOCs to offsite VOCs using methods applied to background comparisons.</p>
General Comment	General Comment	Table 3.1				<p>Table 3.1, Summary of the DQOs for the Process Soil and Fill, step 7, states that a minimum of eight soils samples will be collected from each exposure area as recommended by USEPA's ProUCL Technical Guide. ProUCL is software designed to statistically evaluate data but does not proscribe or ensure a sampling design is adequate for an area. The minimum of eight samples is to ensure that the statistical analyses will be above the minimum threshold to be mathematically valid. The work plan has not demonstrated that the soil/fill sampling plan is adequate to sufficiently characterize the area, especially given the typical heterogeneity of landfilled materials. This is especially important if, as stated in the work plan, the analytical data from the fill/waste samples are used in a risk assessment with the possible outcome of leaving waste exposed at the surface as a final remedy.</p>
						<p>Step 7 of the Process Soil and Fill DQO also states that the samples will be collected of a grid basis. However, this systematic grid approach does not appear to take into consideration the geophysical data that have been collected for this area of the site. Only two test trenches were excavated in the Jim City and Ron Barnett parcels, and neither of the test trenches was located in any of the geophysical anomalies shown on Figure 2.1. There were no other soil sampling efforts in the Jim City and Ron Barnett parcels, and, therefore, the geophysical anomalies have not been investigated. The proposed soil sampling locations shown on Figure 3.1 (based on a grid approach) are either located near the border of a geophysical anomaly, or miss the anomalies altogether. With the proposed grid approach, most of the geophysical anomalies will remain uncharacterized. If the grid approach is to be retained, it should include some judgmentally based biased sampling locations designed to investigate the geophysical anomalies.</p>
General Comment	General Comment	5.7				<p>Section 5.7 Groundwater Investigation, page 34, states that an OU2 groundwater investigation will be proposed following the completion of the Phase 1A OU2 Soil and Fill investigation, and based on the results of the Phase 1A groundwater investigation for OU1. However, this section is generalized, stating only that OU2 groundwater locations would be proposed in areas of “significantly elevated” contaminant concentrations or areas of potentially unacceptable risks (i.e., areas where unsaturated soil exceeds soil screening levels [SSLs] for groundwater protection). It is not clear what constitutes “significant” contaminant concentrations; however, the statement regarding areas of unacceptable risk implies that groundwater investigations will be conducted in any area where unsaturated soil exceeds SSLs for groundwater protection. These two statements should be reconciled and clarified.</p>

		Table 3.2			Table 3.2, Summary of DQOs for the Groundwater Investigation, states in step 7 states that one groundwater sample will be collected from the bottom of any boring where groundwater is encountered using a temporary well screen. This activity is missing from the text of the work plan, and should be included in the groundwater investigation section.
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Text/ Table	Section/ Table #	Page	Paragraph/ DQO Step	Sentence/ Substep	Phase	Comment
Text	Section 5.6 - GMR Investigation	32 - 34				Rationale needs to be provided in the RI/FS work plan (WP) as to why sediment and surface water sampling will be collected over two sampling rounds. In addition, detail should be included on how the sediment and surface water data will be used from the two sampling rounds within the risk assessments.
Text	Section 7 Ecological Risk Assessment	45	2nd paragraph	First sentence		Additional text was added stating that all potentially complete pathways and receptors (lower and upper trophic receptors) would be evaluated, which will be determined based on the results of the characterization of the environmental setting and site inspection and document in the screening-level ecological risk assessment (SERA) memorandum. It is recommended that ecological risk assessment (ERA) methods, including the screening level problem formulation, results of site visit, refinement of the conceptual site model (CSM), proposed toxicity reference values, and the conservative assumptions to be used in the SERA, be presented in advance of preparing the SERA. Typcially, these details are provided in the RI/FS WP and/or in an interim deliverable.
Text	Section 7 Ecological Risk Assessment	45 - 46	3rd and 4th Paragraphs	Step 1 and Step 2 - ERA Process		Additional text was added to the RI/FS WP providing a summary of the components of Step 1 and Step 2 of the ERA process. However, the specific details are still lacking in the RI/FS WP with respect to a thorough description of the environmental setting (in terms of the habitat and biota known or likely to be present; potential constituents of potential ecological concern (COPECs) in relevant media; and a thorough description of the ecological CSM that identifies and evaluates potential source areas, transport pathways, fate and transport mechanisms, exposure media, exposure pathways and routes, and receptors. In addition, the problem formulation should describe the selected assessment endpoints (based on the CSM) as well as measures of exposure and effect (exposure-responses). Although CRA proposes to provide this doucmention in a memorandum summerizing the methods and results of the SERA, providing the details within the RI/FS WP would help minimize comments on the SERA memorandum.
Text	Section 7 Ecological Risk Assessment	46	4th Paragraph	Step 2 - ERA Process		The "conservative assumptions and conservative screening ecotoxicological values" need to be provided in detail in the RI/FS WP. It is indicated in the RI/FS WP that these will be provided in the SERA memorandum; however, as previously commented, providing these details in advance of preparing the SERA memorandum will expedite the review process and minimize re-work of the SERA.
Table	Soil Screening Level Table D.1 Comments					The ecological soil screening values to be used in the SERA are as follows, in order of priority:
						i. USEPA Ecological Soil Screening Levels (Eco-SSLs)
						ii. USEPA Region 5 ESLs
						iii. Other sources (such as other USEPA region soil screening values, Preliminary Remediation Goals for Ecological Endpoints [Efroymsen et al. 1997], and/or from literature)
Table	Surface Water Screening Level Table D.4 Comments					In addition to the ecological soil screening values provided for individual polynuclear aromatic hydrocarbon (PAH) and polychlorinated biphenyl (PCB) constituents, screening values also need to be provided for total low molecular weight (LMW), total high molecular weight (HMW) PAHs, and for total PCBs to evaluate the additive toxic effects.
						In addition to the surface water ecological screening values provided for individual PCB constituents, screening values need to be provided for total PCBs to evaluate the additive toxic effects.
Table	Sediment Screening Level Table D.5 Comments					In addition to the sediment ecological screening values provided for individual PAH and PCB constituents, screening values also need to be provided for total LMW, total HMW PAHs, and for total PCBs to evaluate the additive toxic effects.
Table	DQO Tables 3.1, 3.4, 3.5, and 3.6					Data quality objectives (DQOs) are not clear as to which ecological screening levels (ESLs) and which ecological receptors are being evaluated.

Text/ Table	Section/ Table #	Page	Paragraph	Sentence	Comment
Text	2.1	10	1	-	Add discussions regarding surface water data and radiation screening, consistent with other historical sampling events presented in this section.
Text	2.1	10	3	5th bullet	Add "or less" after "3 feet deep."
Text	7.0	43	3	2	Indicate that the most recent RSLs available at the time of human health risk assessment (HHRA) preparation will be used. Add text indicating that soil gas and groundwater data will be screened using the most recent USEPA VISLs.

Figure #	Secondary Source	Tertiary Source	Exposure Route	Comment
C-1	Groundwater	-	Ing./ dermal/ inh. of vapors	Why are groundwater exposure pathways for residents, site workers, and temporary workers on OU2 parcels (excluding Quarry Pond), temporary workers on offsite properties, and temporary workers on GMR/floodplain not identified with an "X"?
	all	all	all	Why are there no exposure pathways identified with an "X" for residents on OU1 or OU2 parcels (excluding Quarry Pond)? While there may not be current residential pathways on OU1 parcels, potential future risk scenarios need to be addressed. Additionally, if potential future residential receptors are being excluded for OU1 parcels due to use of the presumptive remedy that will include institutional controls, please specify this rationale. As for OU2 parcels where a presumptive remedy will not be completed, please explain the reason for not including residential pathways.
C-2	all	all	all	Why are there no exposure pathways identified with an "X" for residents on OU1 or OU2 parcels (excluding Quarry Pond)? While there may not be current residential pathways on OU1 parcels, potential future risk scenarios need to be addressed. Additionally, if potential future residential receptors are being excluded for OU1 parcels due to use of the presumptive remedy that will include institutional controls, please specify this rationale. As for OU2 parcels where a presumptive remedy will not be completed, please explain the reason for not including residential pathways.
	-	-	Ing./ dermal	Why are soil exposure pathways for recreational users and temporary workers in the GMR/floodplain not identified with an "X"?
	Groundwater	-	Ing./ dermal/ inh. of vapors	Why are groundwater exposure pathways for site workers and temporary workers on OU2 parcels (excluding Quarry Pond), temporary workers on offsite properties, and temporary workers on GMR/floodplain not identified with an "X"?

Table #	DQO Step	Substep	Phase(s)	Comment
3.1 (Fill)	2	iv.b	2	As indicated in the original comment on the previous version, the size and location of each exposure unit (EU) should be identified based on property ownership boundaries and current and reasonably foreseeable activities and land uses . This revised proposed method would only be appropriate if multiple structures inside any one ownership boundary are collectively an EU for potential receptors. In other words, if an ownership boundary has multiple structures whose occupants do not traverse the entire ownership boundary, then multiple EUs should be identified within the ownerhip boundary.
3.5 (Sediment)	3	ii	1A-GMR	Provide rationale for the abbreviated analyte list; historical data from the GMR and abutting land are very limited and do not provide a strong basis for such an abbreviated analyte list at this time.
	3	ii	1A-QP	Provide rationale for the abbreviated analyte list; historical data from the Quarry Pond and abutting land are very limited and do not provide a strong basis for such an abbreviated analyte list at this time.
	4	all	all	Add "or less" after "3 ft deep" when referring to areas targeted for sediment sampling locations.
3.6 (Floodplain Soil)	2	iv.a	2	Justify why a 5-acre exposure area is appropriate.

Text/ Table	Section/ Table #	Comment
Table	E.1	40 CFR 264.1032 and 1033 should be included as ARARs until specific technologies are chosen for evaluation in the FS

